

Degreasing Solvent Alternatives/Additives

Excluded from regulation under the Clean Air Act as volatile organic compounds

Excerpted from 40 CFR 51.100 (s)(1) on July 7, 2014 – www.ecfr.gov

Removes recordkeeping, emissions reporting & inventory requirements for t-Butyl Acetate – FR final rule, February 25, 2016

Acetone (Propanone) – used in lacquers for automotive/furniture finishes, as a degreasing & degumming agent and paint varnish & lacquer strippers; can be used in combination with Methyl Acetate as a spray gun cleaner; *potentially an F003 hazardous waste*

Dimethyl Carbonate (Dimethyl Ester) – used as a lubricant, solvent, and fuel additive

Hydrofluorocarbons (HFC)

Trifluoromethane (HFC-23) – used in plasma etching & cleaning in semiconductor production

1,1,2,3,3-Pentafluoropropane (HFC-245ea) – used as a cleaning solvent

1,1,1,3,3-Pentafluorobutane (HFC-365mfc) – used in cleaning metals

1,1,1,2,3,4,4,5,5,5-Decafluoropentane (HFC-4310mee) – used as a cleaning solvent

Hydrofluoroethers (HFE)

Methoxy Heptafluoro Propane (HFE-7000) – used as a process solvent and in electronics cleaning

Methoxy Nonafluoro Butane (HFE-7100) – used in vapor degreasing as a spray contact cleaner

Ethoxy Nonafluoro Butane (HFE-7200) – used in vapor degreasing and cold cleaning applications

1,1,1,2,2,3,4,5,5,5-Decafluoro-3-Methoxy-4-Trifluoromethyl-Pentane (HFE-7300) – used in cleaning applications

2-Trifluoromethyl-3-ethoxy Dodecafluoro Hexane (HFE-7500)

Hydrochlorofluoroolefins (HCFO)

Trans 1-Chloro-3,3,3-Trifluoropropene (HCFO-1233zd(E)) – used in cleaning metals

Methyl Acetate (Methyl Ethanoate) – used as a solvent; can be used in combination with Acetone as a spray gun cleaner

Methylated Siloxanes (Volatile Methyl Siloxanes – VMS) – cyclic, branched or linear; used to remove particulates, oils, fluxes, and aqueous contaminants

Methyl Formate (R-611) – used as a solvent, but not typically in degreasing

Para-Chlorobenzotrifluoride (PCBTF) – high capacity for dissolving many printing inks (faster than Toluene); used as a Xylene replacement in cleaners and thinners

Propylene Carbonate (Cyclic Propylene Carbonate) – can be found in some paint strippers

Tertiary Butyl Acetate (t-Butyl Acetate) – used as a cleaning solvent; additive in wood & metal coatings